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Wilms Tumor - Childhood - Diagnosis [1]

This section has been reviewed and approved by the Cancer.Net Editorial Board [2], 06/2014

ON THIS PAGE: You will find a list of the common tests, procedures, and scans that doctors can use to find out what?s wrong and identify the cause of the problem. To see other pages, use the menu on the side of your screen.

Doctors use many tests to diagnose a tumor and find out if it has spread to another part of the body, called metastasis. Some tests may also determine which treatments may be the most effective. For most tumors, a biopsy is the only way to make a definitive diagnosis of cancer. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether the tumor has spread. This list describes options for diagnosing this type of cancer, and not all tests listed will be used for every child. Your child?s doctor may consider these factors when choosing a diagnostic test:

- Age and medical condition
- Type of cancer suspected
- Signs and symptoms
- Previous test results

In addition to a physical examination, the following tests may be used to diagnose Wilms tumor:

Blood/urine tests. Doctors will take samples of your child?s blood [3] and urine so tests can be done to learn more about the tumor and your child?s general health.

X-ray. An x-ray is a way to create a picture of the structures inside of the body, using a small amount of radiation.

Ultrasound [4]**.** An ultrasound uses sound waves to create a picture of the internal organs. A transmitter that emits sound waves is moved over the body. A tumor generates different echoes of the sound waves than healthy tissue, so when the waves are bounced back to a computer and changed into images, the doctor can find a tumor inside the body. The procedure is painless.

Computed tomography (CT or CAT) scan [5]**.** A CT scan creates a three-dimensional picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. A CT scan can also be used to measure the tumor?s size. Sometimes, a special dye called a contrast medium is given

before the scan to provide better detail on the image. This dye can be injected into a patient?s vein or given as a pill to swallow.

The first CT scan of the abdomen and pelvis will help show if the Wilms tumor has spread from the kidney into the blood vessels and particularly the inferior vena cava, which is the major vein that carries blood from the legs, pelvis, and abdomen to the heart. If this is the case, chemotherapy will often be given before surgery (see the Treatment Options [6] section). A chest CT may be used to find out if the tumor has spread to the lungs.

Magnetic resonance imaging (MRI) [7]**.** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. MRI can also be used to measure the tumor?s size. A special dye called a contrast medium is given before the scan to create a clearer picture. This dye can be injected into a patient?s vein or given as a pill to swallow.

Bone x-ray and bone scan [8]**.** Bone x-rays and bone scans look for cancer in the bones of children who have a rare kidney tumor called clear cell sarcoma [9]. A bone scan uses a radioactive tracer to look at the inside of the bones. The tracer is injected into a patient?s vein. It collects in areas of the bone and is detected by a special camera. Healthy bone appears gray to the camera, and areas of injury, such as those caused by cancer, appear dark.

Surgery and biopsy [10]**.** To diagnose Wilms tumor, the doctor usually performs an abdominal operation, called a laparotomy, and removes the affected kidney and tumor. If the tumor is too large to be removed, the doctor will perform a biopsy only, removing a small amount of tissue for examination under a microscope. In either case, the sample of the tumor removed during surgery is analyzed by a pathologist to determine whether cancer cells are present. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

Chromosome tests. A test for changes in chromosomes 1 and 16 may be done on the tumor tissue removed during the biopsy (see above). A tumor with changes in both these chromosomes does not respond as well to standard treatment. Current research studies for Wilms tumor use more chemotherapy to treat children with a tumor that has these changes (see the Treatment Options [6] section).

After diagnostic tests are done, your child?s doctor will review all of the results with you. If the diagnosis is Wilms tumor, these results also help the doctor describe the cancer; this is called staging.

The next section helps explain the different stages for this type of tumor. Use the menu on the side of your screen to select Stages, or you can select another section, to continue reading this guide.

Links:
[1] http://www.cancer.net/cancer-types/wilms-tumor-childhood/diagnosis
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/24716
[4] http://www.cancer.net/node/24714
[5] http://www.cancer.net/node/24486

[6] http://www.cancer.net/node/19343
[7] http://www.cancer.net/node/24578
[8] http://www.cancer.net/node/24410
[9] http://www.cancer.net/node/19604
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